AMENDMENTS TO THE SPECIFICATION

Please insert the following section headings on page 1, after the title and at line 3:

-- BACKGROUND OF THE INVENTION

1) Field of the Invention --

Please insert the following section heading on page 1, at line 5:

-- 2) Description of the Prior Art --

Please INSERT the following paragraphs on page 1, beginning at line 16:

-- We refer to US-A-3 305 294 from which the principle of variable optical power of such a lens is known, albeit in inter alia spectacles. This document is hereby incorporated herein by reference. Also US-A-3 583 790 is noted which further describes the optics.

Subsequently the workings of the eye and the background of the invention will be described. When a person looks at an object the object will reflect light which reaches the eye and this light results in a sharp image of the object on the retina after the light has passed through an optical system which includes the cornea, several eye-chambers which are filled with fluids and the lens of the eye. For objects close-by the total optical power of the eye needs to be larger compared to objects at a distance. The lens in the eye is capable of changing this optical power. The elastic natural lens is situated in the capsular bag. This elastic capsular bag can be stretched by relaxation of the ciliary muscle of the eye, which flattens the lens, which in turn results in an eye which focuses on a distance. When the ciliary muscle contracts the capsular bag will relax and the natural lens will resume its natural most spherical shape, which results in an eye which focuses near-by. Accommodation is this process of focusing the eye for sharp images of objects at various distances.

When a patient develops a cataract the natural lens becomes hard and opaque and the patient becomes blind. Cataracts are treated by replacement of the natural lens by an artificial lens in routine surgery. The patient regains vision, but will have a life-long need for spectacles for sharp vision in a distance, sharp vision nearby or both. The current intra ocular lenses do not react

adequately to contraction and relaxation of the ciliary muscle – the eye focuses only at one distance or can focus only at a limited range. Virtually all present cataract intra ocular lenses are non-accommodative with a fixed focal length. It is an object of the invention to replace the opaque lens of a cataract patient with a new clear lens of excellent optical quality and restore the accommodation.

Virtually everyone becomes presbyope ("reading-farsighted") after the age of 45. The natural lens becomes hard, less elastic and does not resume its natural most spherical shape when the ciliary muscle contracts. Presbyopes are in need of reading-spectacles for focusing at nearby objects. Later pre-cataracts can develop which further degrade vision. Presbyopes would be greatly aided by a high quality accommodating intra ocular lens which would relieve them of the reading-spectacles, would restore the overall quality of their vision and would prevent cataracts. It is a further object of this invention to replace the presbyopic low quality and hardened natural lens by a clear lens of excellent optical quality which also restores accommodation.

The desired basic power of an artificial lens to be implanted is often difficult to estimate by the eye surgeon, especially when it concerns measurements on a cataracterous eye. The intra ocular lens has preferably a dioptre value which results in an eye which is focused at the far distance. No current intra ocular lens can be adjusted once in the eye. It is a still further object of this invention to provide an intra ocular lens which can be adjusted post-operatively by a shift of the optical elements to a new resting state by shortening or lengthening the haptics or other components by light, laser light, ultrasonic energy, magnetic or mechanical energy or force.

Traditionally the refractive correction of the eye is accomplished with spectacles and contact lenses, but recently also by reshaping the cornea with lasers. However, one can also insert a refractive intra ocular lens (also: "refractive lengths", "corrective intra ocular lens", "phakic lens", "refractive phakic implant lens" or "claw lens") just behind the cornea, in the anterior or posterior chamber of the eye. This refractive lens relieves the patient of the need for eye glasses and the refractive intra ocular lens functions in conjunction with the natural lens which performs

the accommodation function. These refractive intra ocular lenses are now manufactured, marketed and implanted routinely in the anterior chamber of the eye, on the iris, behind the iris or near the anterior side of the capsular bag. However, the optical power of these refractive lenses needs often to be adjusted or re-adjusted after implantation or the patient remains in need of spectacles. The refractive lenses can be removed in a second surgery and replaced with a new set of refractive intra ocular lenses. Intra ocular lenses which can be adjusted and/or re-adjusted do not yet exist. It is a still further object of the invention to provide lenses which are adjustable and/or re-adjustable, also post-implant, in the eye, concerning the basic dioptre power or accommodation range. This adjustment results from a shift of the optical elements of the lens to a new resting state.

At present accommodating intra ocular lenses are in development with few products newly on the market and these include:

- a first generation accommodating intra ocular lenses with a single spherical lens and hinges which translate the force of the ciliary muscle, which is perpendicular to the optical axis in a movement forward of the intra ocular lens along the optical axis, or
- the second generation accommodating intra ocular lenses, mostly experimentally to date, with a mode of action similar to the first generation, but of which an overly high dioptre value of the moving lens is corrected by a static negative lens which typically is situated near the posterior side of the capsular bag, or
- several experimental intra ocular lenses which include lenses made of soft masses of polymers which mimic the natural lens or encapsulated soft masses of polymers which mimic the natural lens.
- There are no intra ocular lenses in development which are of a kind described in accordance with the present invention below. --

Please insert the following section heading on page 1, at line 19:

-- SUMMARY OF THE INVENTION --

Please DELETE the paragraph on page 1, lines 28-31 in its entirety.

Please insert the following section heading on page 2, at line 14:

-- BRIEF DESCRIPTION OF THE DRAWINGS --

Please insert the following section heading on page 2, at line 31:

-- DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS --

Please DELETE the paragraphs on page 8, beginning at line 15, and ending on page 10, at line 22, in its entirety.